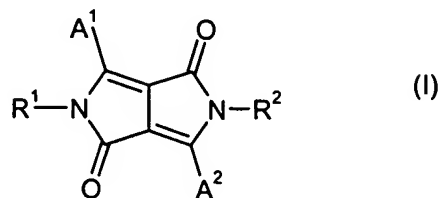


In the claims:

1. **(currently amended):** A fluorescent diketopyrrolopyrrole of the formula I





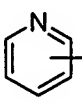
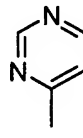
, wherein

R¹ and R² may be the same or different and are selected from a C₁-C₂₅alkyl group, which can be substituted by fluorine, chlorine or bromine, an allyl group, which can be substituted one to three times with C₁-C₄alkyl, a cycloalkyl group, a cycloalkyl group, which can be condensed one or two times by phenyl which can be substituted one to three times with C₁-C₄-alkyl, halogen, nitro or cyano, an alkenyl group, a cycloalkenyl group, an alkynyl group, a haloalkyl group, a haloalkenyl group, a haloalkynyl group, a ketone or aldehyde group, an ester group, a carbamoyl group, a ketone group, a silyl group, a siloxanyl group, A³ or -CR³R⁴-(CH₂)ₘ-A³ wherein

R³ and R⁴ independently from each other stand for hydrogen or C₁-C₄alkyl, or phenyl which can be substituted one to three times with C₁-C₄alkyl,

A³ stands for aryl or heteroaryl, in particular phenyl or 1- or 2-naphthyl which can be substituted one to three times with C₁-C₈alkyl and/or C₁-C₈alkoxy, and m stands for 0, 1, 2, 3 or 4,

A¹ and A² are independently of each other a group comprising a five-membered heterocyclic ring, containing one to three heteroatoms selected from the group of nitrogen, oxygen and sulfur, or a six-membered heterocyclic ring, containing one to three heteroatoms selected from the group of nitrogen, oxygen and sulfur, wherein, if A¹ and A² are a single five- or six-

membered heterocyclic ring of formula , , , or , said heterocyclic

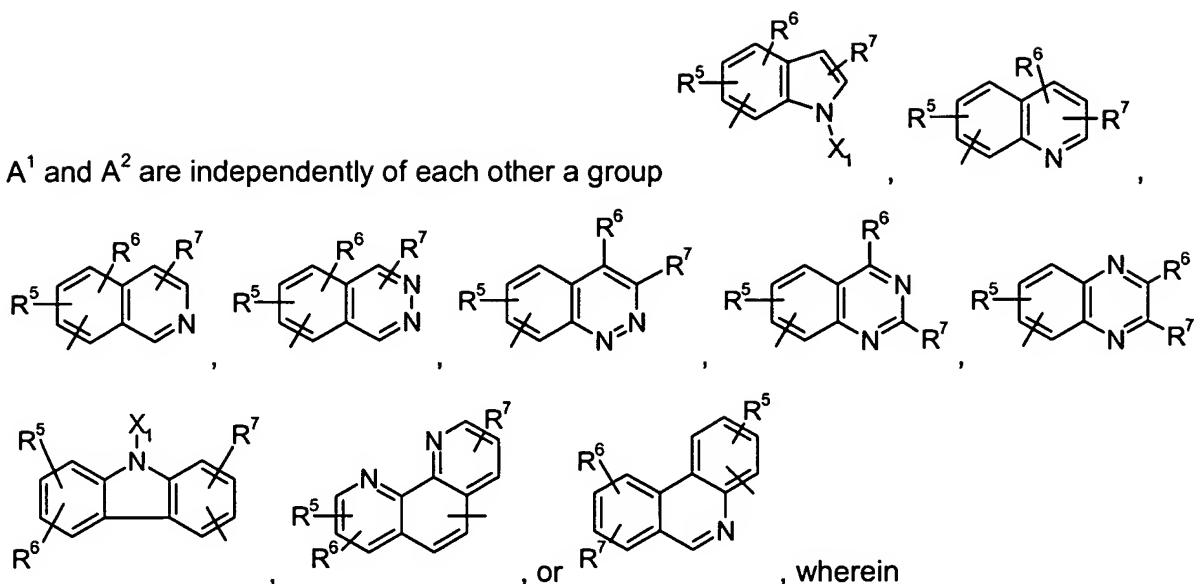
ring is substituted by at least a group selected from a C₁-C₂₅alkyl group, a cycloalkyl group, an aralkyl group, an alkenyl group, a cycloalkenyl group, an alkynyl group, a hydroxyl group, a mercapto group, an alkoxy group, an alkylthio group, an aryl ether group, an aryl thioether group, an aryl group, a heterocyclic group, a halogen atom, a haloalkyl group, a haloalkenyl group, a haloalkynyl group, a cyano group, an aldehyde group, a carboxyl group, an ester group, a carbamoyl group, an amino group, a nitro group, a silyl group, a siloxanyl group, a

Chemical structures 1-18 are shown, representing various fused ring systems with substituents R^5 , R^6 , R^7 , and X^1 . The structures include:

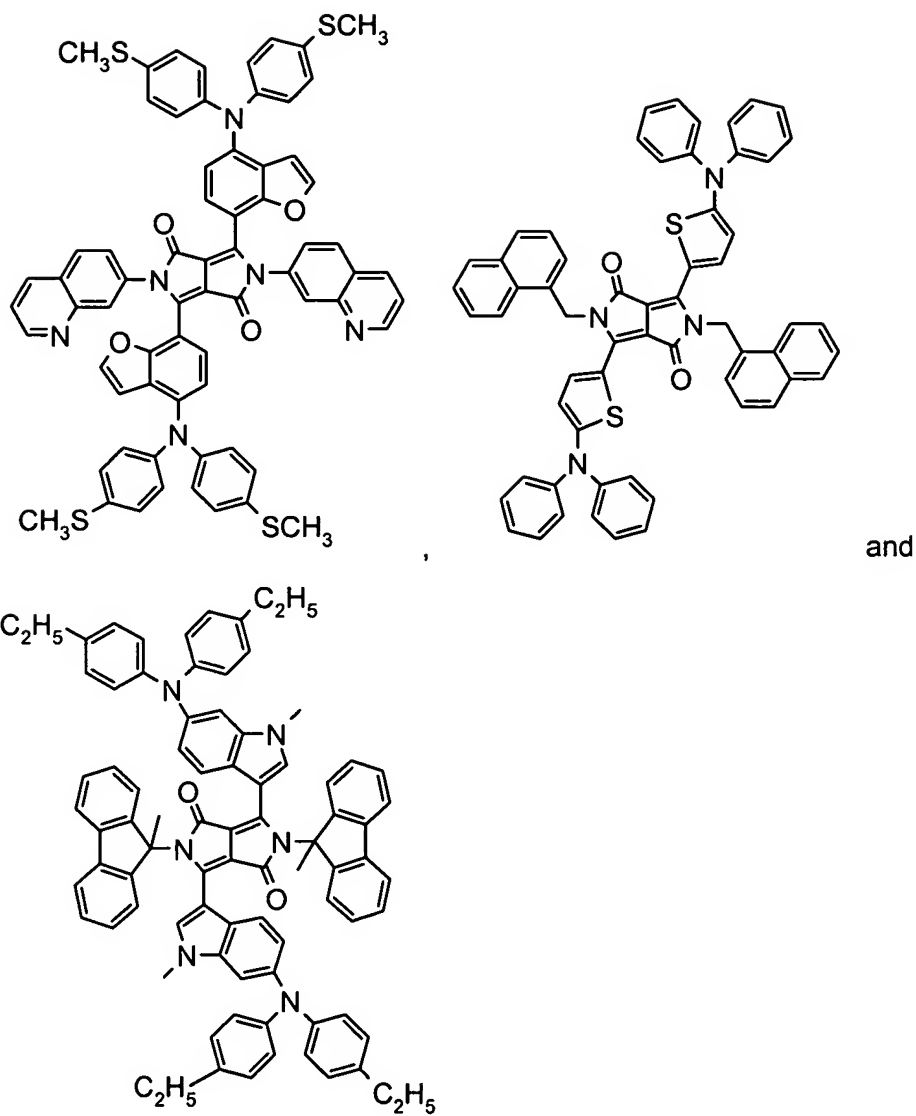
- 1. A five-membered ring with a nitrogen atom bonded to X^1 , fused to a benzene ring, with substituents R^5 and R^6 .
- 2. A five-membered ring with a sulfur atom, fused to a benzene ring, with substituents R^5 and R^6 .
- 3. A five-membered ring with an oxygen atom, fused to a benzene ring, with substituents R^5 and R^6 .
- 4. A six-membered ring with a nitrogen atom, fused to a benzene ring, with substituents R^5 , R^6 , and R^7 .
- 5. A six-membered ring with two nitrogen atoms, fused to a benzene ring, with substituents R^5 , R^6 , and R^7 .
- 6. A six-membered ring with two nitrogen atoms, fused to a benzene ring, with substituents R^5 , R^6 , and R^7 .
- 7. A six-membered ring with two nitrogen atoms, fused to a benzene ring, with substituents R^5 , R^6 , and R^7 .
- 8. A six-membered ring with two nitrogen atoms, fused to a benzene ring, with substituents R^5 , R^6 , and R^7 .
- 9. A six-membered ring with two nitrogen atoms, fused to a benzene ring, with substituents R^5 , R^6 , and R^7 .
- 10. A six-membered ring with two nitrogen atoms, fused to a benzene ring, with substituents R^5 , R^6 , and R^7 .
- 11. A six-membered ring with two nitrogen atoms, fused to a benzene ring, with substituents R^5 , R^6 , and R^7 .
- 12. A six-membered ring with two nitrogen atoms, fused to a benzene ring, with substituents R^5 , R^6 , and R^7 .
- 13. A six-membered ring with two nitrogen atoms, fused to a benzene ring, with substituents R^5 , R^6 , and R^7 .
- 14. A six-membered ring with two nitrogen atoms, fused to a benzene ring, with substituents R^5 , R^6 , and R^7 .
- 15. A six-membered ring with two nitrogen atoms, fused to a benzene ring, with substituents R^5 , R^6 , and R^7 .
- 16. A six-membered ring with two nitrogen atoms, fused to a benzene ring, with substituents R^5 , R^6 , and R^7 .
- 17. A six-membered ring with two nitrogen atoms, fused to a benzene ring, with substituents R^5 , R^6 , and R^7 .
- 18. A six-membered ring with two nitrogen atoms, fused to a benzene ring, with substituents R^5 , R^6 , and R^7 .

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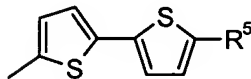
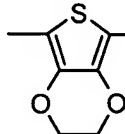
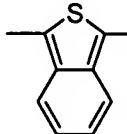
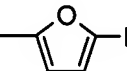
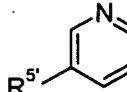
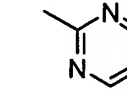
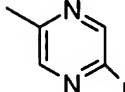
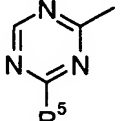
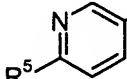
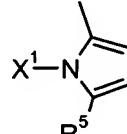
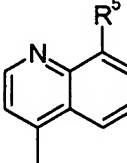
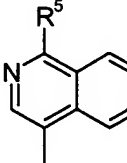
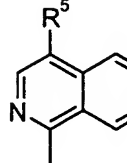
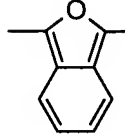
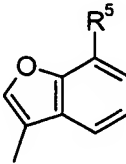
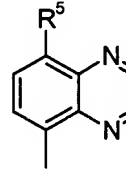
A¹ and A² are independently of each other a group






R⁵, R⁶, and R⁷ may be the same or different and are selected from a hydrogen atom, a C₁-C₂₅alkyl group, a cycloalkyl group, an aralkyl group, an alkenyl group, a cycloalkenyl group, an alkynyl group, a hydroxyl group, a mercapto group, an alkoxy group, an alkylthio group, an aryl ether group, an aryl thioether group, an aryl group, a heterocyclic group, a halogen atom, a haloalkyl group, a haloalkenyl group, a haloalkynyl group, a cyano group, an aldehyde group, a carboxyl group, an ester group, a carbamoyl group, a nitro group, a silyl group, a siloxanyl group, a substituted or unsubstituted vinyl group, a group NR⁸R⁹, wherein R⁸ and R⁹ independently of each other stand for a hydrogen atom, an alkyl group, a cycloalkyl group, an aryl group, a heteroaryl group, a heterocyclic group, an aralkyl group, or R⁸ and R⁹ together with the nitrogen atom to which they are bonded form a five or six membered heterocyclic ring, which can be condensed by one or two optionally substituted phenyl groups, or at least two adjacent substituents R⁵ to R⁷ form an aromatic or aliphatic fused ring system, and X¹ is a hydrogen atom, a C₁-C₂₅alkyl group, a cycloalkyl group, an aralkyl group, an aryl group, or a heterocyclic group, wherein at least one of the groups R⁵, R⁶, and R⁷ is different from a hydrogen atom, if A¹ and A² are a single five- or six-membered heterocyclic ring, containing one heteroatom selected from the group of nitrogen, oxygen and sulfur, with the proviso, that the following compounds are excluded








2. **(currently amended):** A fluorescent diketopyrrolopyrrole according to claim 1, wherein R^1 and R^2 independently from each other are ~~selected from~~ C_1 - C_8 alkyl, C_5 - C_{12} -cycloalkyl, which can be substituted one to three times with C_1 - C_8 alkyl and/or C_1 - C_8 alkoxy, or C_5 - C_{12} cycloalkyl, which can be condensed one or two times by phenyl which can be substituted one to three times with C_1 - C_4 -alkyl, halogen, nitro or cyano, phenyl or 1- or 2-naphthyl which can be substituted one to three times with C_1 - C_8 alkyl and/or C_1 - C_8 alkoxy, or $-CR^3R^4-(CH_2)_m-A^3$ wherein R^3 and R^4 stand for hydrogen, A^3 stands for phenyl or 1- or 2-naphthyl, which can be substituted one to three times with C_1 - C_8 alkyl and/or C_1 - C_8 alkoxy, and m stands for 0 or 1.

- A^2 independently from each other are selected from-
- 





- 






- 


- wherein



 or
 
 , or a group -NR⁸R⁹, wherein R⁸ and R⁹

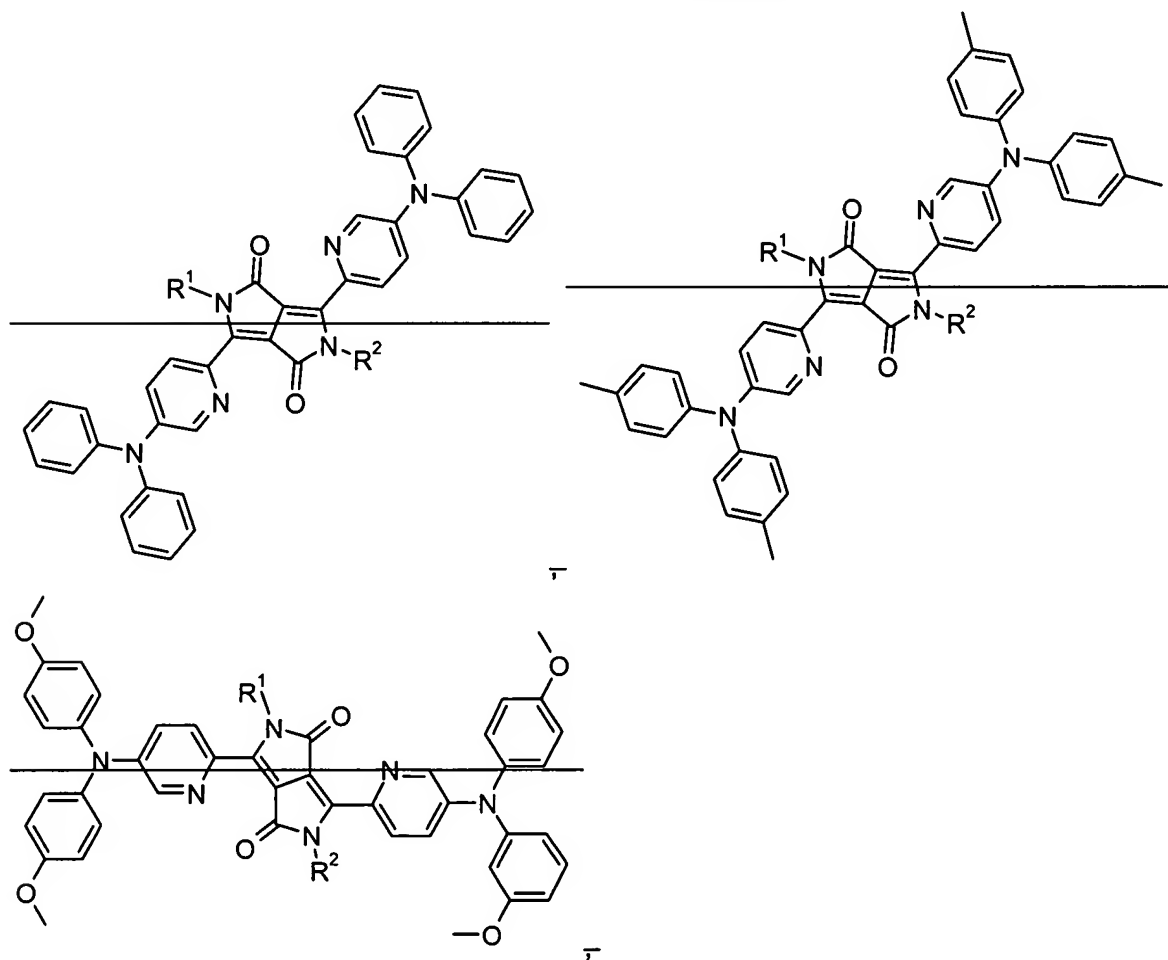
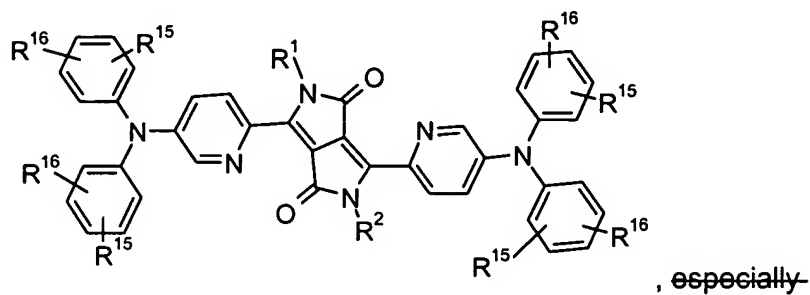
Cc1cc(R5'')sc(R6'')c1

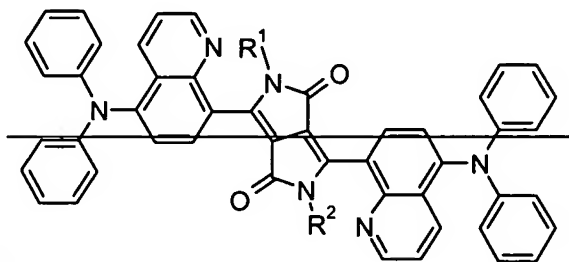
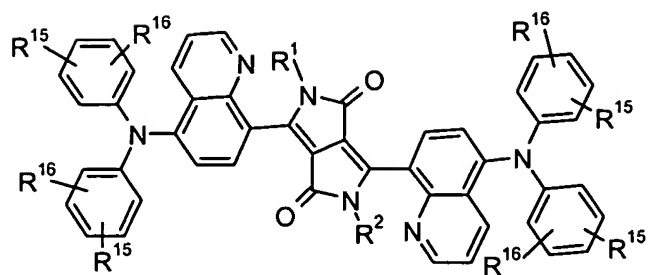


 , or 
 , especially 
 , or 
 , or

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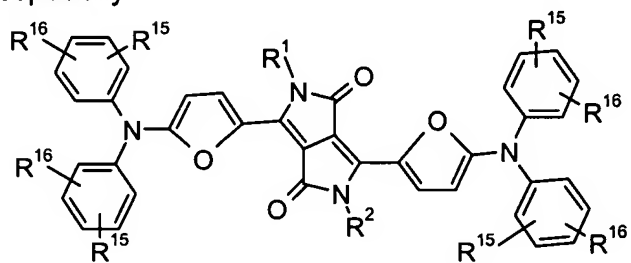
for hydrogen, C₁-C₈-alkyl, C₁-C₈-alkoxy, or phenyl, R^{5'} is R⁵, except hydrogen, R^{5''} and R^{6''} independently from each other stands for hydrogen, C₁-C₈-alkyl or C₁-C₈-alkoxy, and X¹ stands for hydrogen, or C₁-C₈-alkyl.

4. **(currently amended):** A fluorescent diketopyrrolopyrrole according to claim 3, which is

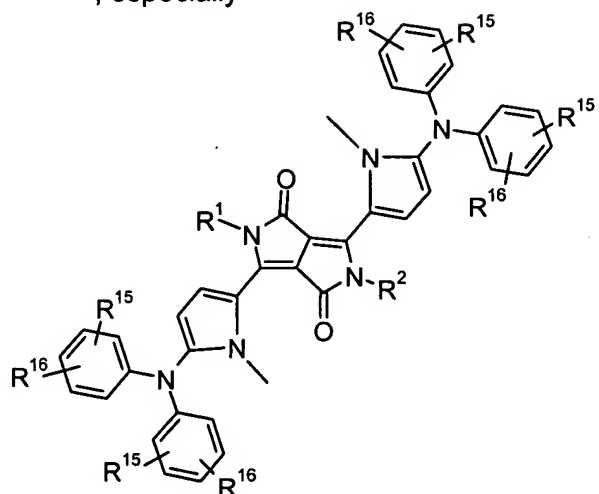
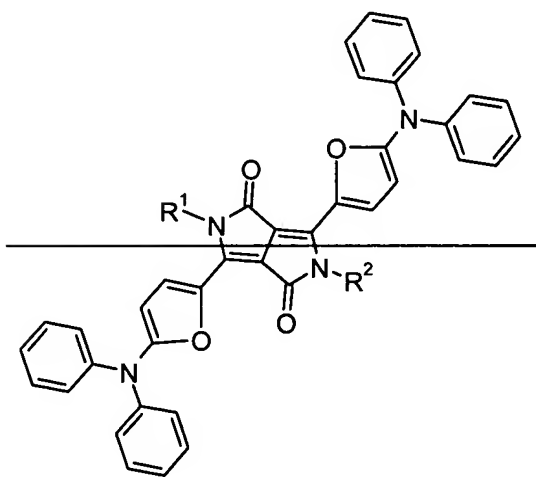


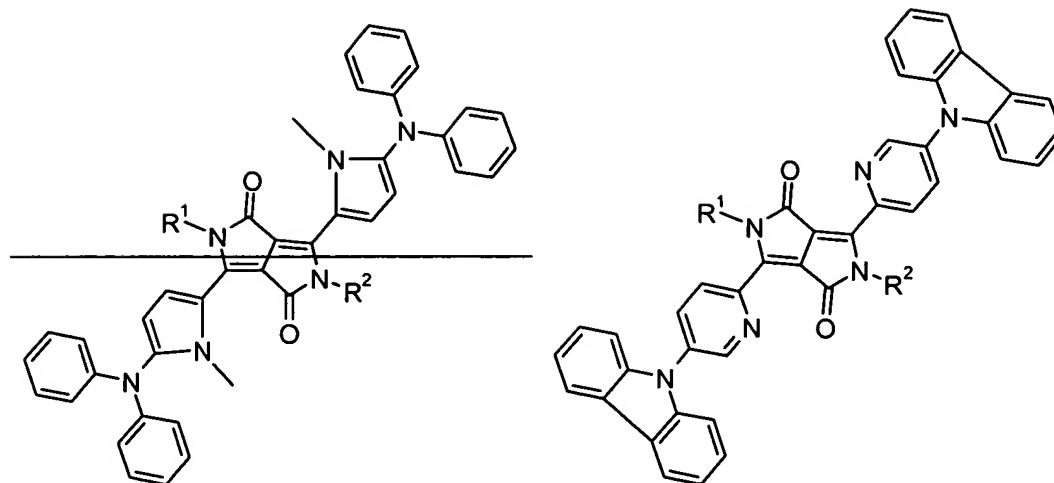


especially

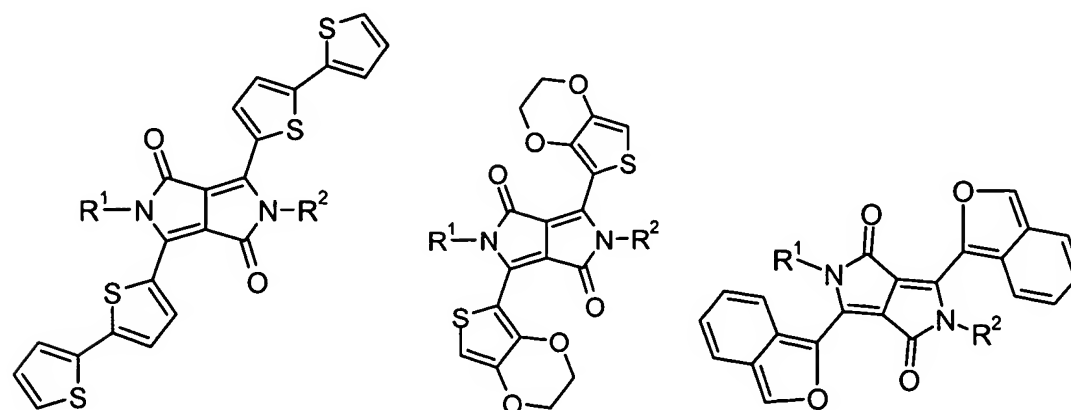
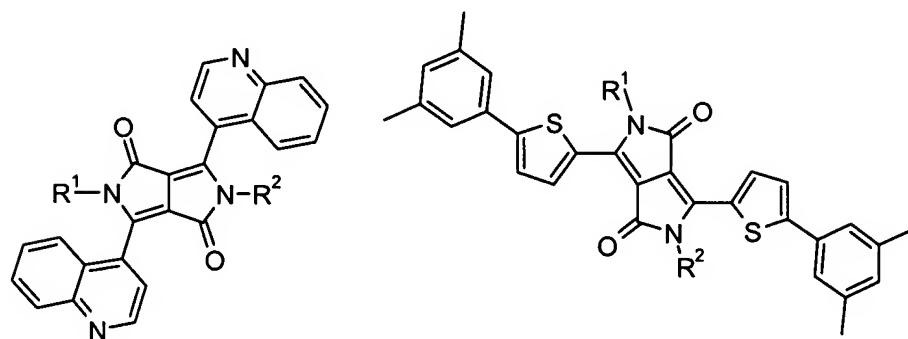
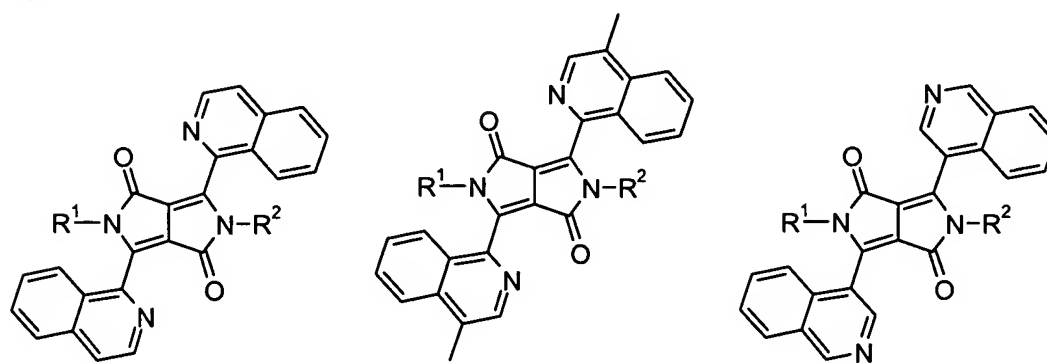


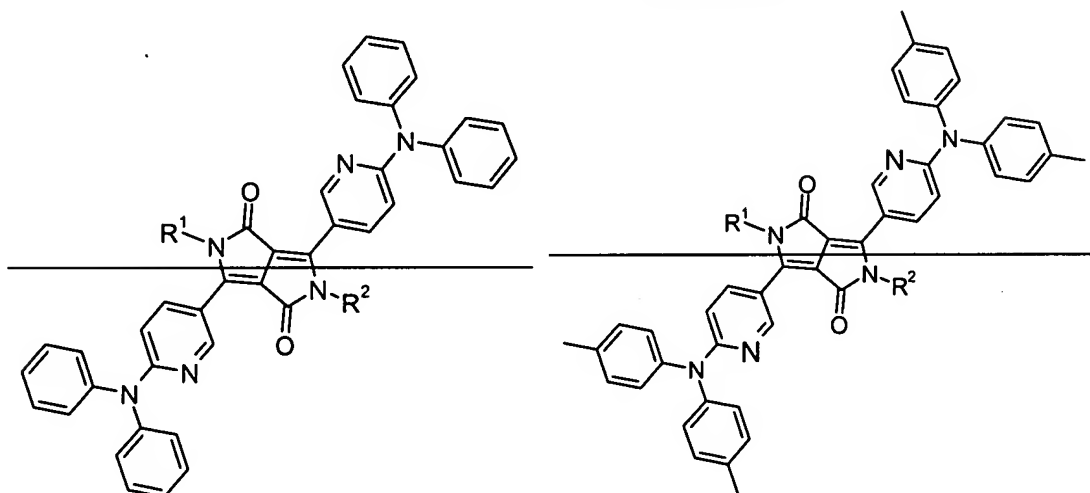
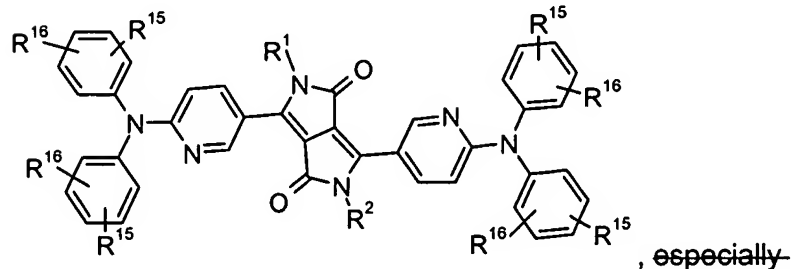
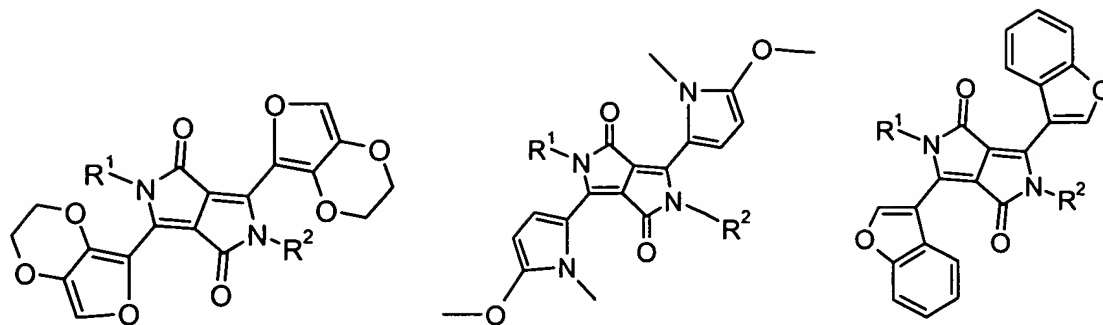
especially



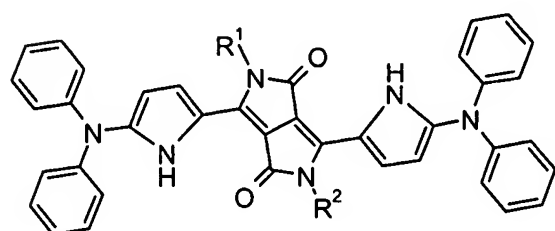


especially





or

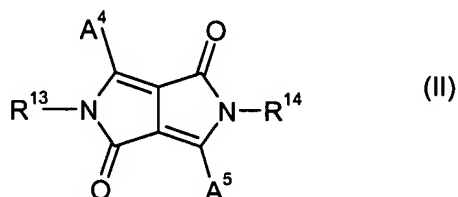


, wherein

R¹ and R² are independently of each other a C₁-C₁₂alkyl group, ~~such as methyl, ethyl, n-propyl, isopropyl, n-butyl, sec-butyl, isobutyl, tert-butyl, n-pentyl, 2-pentyl, 3-pentyl, 2,2-dimethylpropyl, n-hexyl, n-heptyl, n-octyl, 1,1,3,3-tetramethylbutyl and 2-ethylhexyl, n-nonyl, n-decyl, n-undecyl, n-dodecyl,~~ a C₅-C₇cycloalkyl group, which optionally can be substituted by one to three C₁-C₈-alkyl or C₁-C₈-alkoxy groups, a C₅-C₇cycloalkyl group, which can be substituted one to three times with C₁-C₈alkyl and/or C₁-C₈alkoxy, or which can be condensed one or two times by

optionally substituted phenyl, or a C₇-C₁₄alkyl group, which optionally can be substituted by one to three C₁-C₈-alkyl or C₁-C₈-alkoxy groups, and R¹⁵ and R¹⁶ stands for hydrogen, C₁-C₈-alkyl, C₁-C₈-alkoxy, or phenyl.

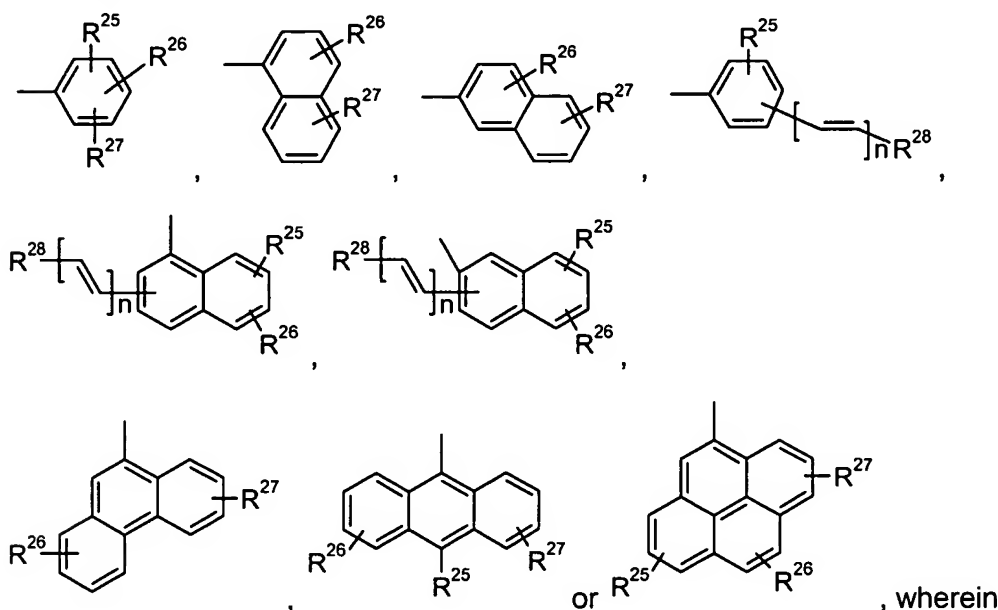
5. **(currently amended):** A composition comprising a guest chromophore and a host chromophore, wherein the absorption spectrum of the guest chromophore overlaps with the fluorescence emission spectrum of the host chromophore, wherein the host chromophore is a diketopyrrolopyrrole having a photoluminescence emission peak at 500 to 720 nm, ~~preferably 520 to 630 nm, most preferred 540 to 600 nm~~ and wherein the host chromophore and/or the guest chromophore is a diketopyrrolopyrrole of formula I according to claim 1. ~~any of claims 1 to 4.~~
6. **(currently amended):** A composition comprising a guest chromophore and a host chromophore, wherein the absorption spectrum of the guest chromophore overlaps with the fluorescence emission spectrum of the host chromophore, wherein the host chromophore is a diketopyrrolopyrrole having a photoluminescence emission peak at 500 to 720 nm, ~~preferably 520 to 630 nm, most preferred 540 to 600 nm~~ and wherein the guest chromophore is a diketopyrrolopyrrole of formula I according to claim 1. ~~any of claims 1 to 5.~~
7. **(original):** A composition according to claim 6, wherein the host chromophore is a diketopyrrolopyrrole ("DPP") represented by formula II



wherein R¹³ and R¹⁴ independently from each other stand for C₁-C₂₅-alkyl, which can be substituted by fluorine, chlorine or bromine, C₅-C₁₂-cycloalkyl or C₅-C₁₂-cycloalkyl, which can be condensed one or two times by phenyl which can be substituted one to three times with C₁-C₄-alkyl, halogen, nitro or cyano, silyl, A⁶ or -CR¹¹R¹²-(CH₂)_m-A⁶, wherein R¹¹ and R¹² independently from each other stand for hydrogen, fluorine, chlorine, bromine, cyano or C₁-C₄alkyl, which can be substituted by fluorine, chlorine or bromine, or phenyl which can be substituted one to three times with C₁-C₄alkyl, A⁶ stands for phenyl or 1- or 2-naphthyl which can be substituted one to three times with C₁-C₈alkyl, C₁-C₈alkoxy, halogen, nitro, cyano, phenyl, which can be substituted

with C₁-C₈alkyl or C₁-C₈alkoxy one to three times, -NR²³R²⁴, wherein R²³ and R²⁴ represent hydrogen, C₁-C₂₅-alkyl, C₅-C₁₂-cycloalkyl or C₆-C₂₄-aryl, in particular phenyl or 1- or 2-naphthyl which can be substituted one to three times with C₁-C₈alkyl, C₁-C₈alkoxy, halogen or cyano, or phenyl, which can be substituted with C₁-C₈alkyl or C₁-C₈alkoxy one to three times, and m stands for 0, 1, 2, 3 or 4,

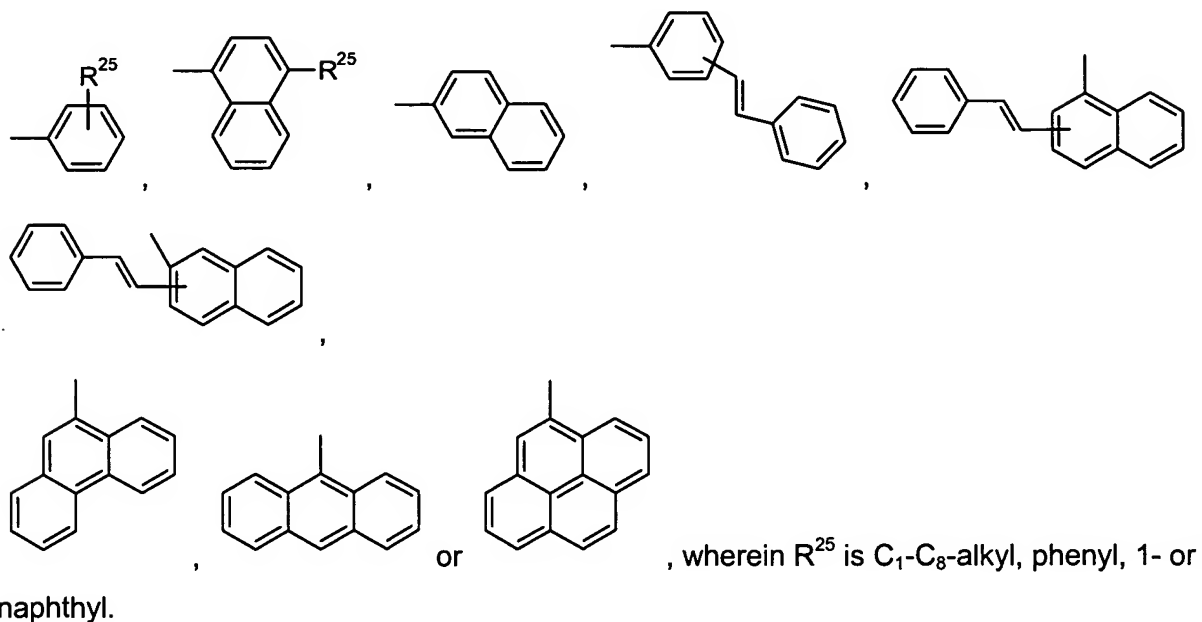
A⁴ and A⁵ independently from each other stand for



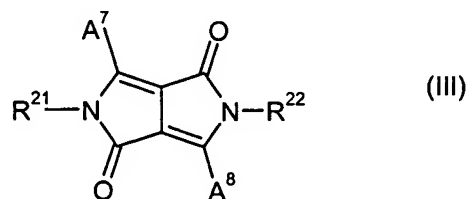
R²⁵, R²⁶, R²⁷ independently from each other stands for hydrogen, C₁-C₂₅alkyl, -CR¹¹R¹²-(CH₂)_m-A⁶, cyano, halogen, -OR²⁹, -S(O)_pR³⁰, or phenyl, which can be substituted one to three times with C₁-C₈alkyl or C₁-C₈alkoxy, wherein R²⁹ stands for C₁-C₂₅-alkyl, C₅-C₁₂-cycloalkyl, -CR¹¹R¹²-(CH₂)_m-Ph, C₆-C₂₄-aryl, or a saturated or unsaturated heterocyclic radical comprising five to seven ring atoms, wherein the ring consists of carbon atoms and one to three hetero atoms selected from the group consisting of nitrogen, oxygen and sulfur, R³⁰ stands for C₁-C₂₅-alkyl, C₅-C₁₂-cycloalkyl, -CR¹¹R¹²-(CH₂)_m-Ph, R²⁸ stands for C₂-C₂₀-heteroaryl or C₆-C₂₄-aryl, p stands for 0, 1, 2 or 3, m and n stands for 0, 1, 2, 3 or 4.

8. **(currently amended):** A composition according to claim ~~6~~ 7, wherein R¹³ and R¹⁴ independently from each other stand for C₁-C₈alkyl, C₅-C₁₂-cycloalkyl, which can be substituted one to three times with C₁-C₈alkyl and/or C₁-C₈alkoxy, phenyl or 1- or 2-naphthyl which can be substituted one to three times with C₁-C₈alkyl and/or C₁-C₈alkoxy, or -CR¹¹R¹²-(CH₂)_m-A⁶ wherein R¹¹ and R¹² stand for hydrogen, or C₁-C₄alkyl, A⁶ stands for phenyl or 1- or 2-naphthyl, which can be substituted one to three times with C₁-C₈alkyl and/or C₁-C₈alkoxy, and m stands for 0 or 1.

9. **(currently amended):** A composition according to ~~any of claims 6 to 8~~ claim 7, wherein A⁴ and A⁵ independently from each other stand for



10. **(currently amended):** An EL device comprising a fluorescent diketopyrrolopyrrole according to claim 1. ~~any of claims 1 to 4 or a composition according to any of claims 5 to 9.~~
11. **(currently amended):** A diketopyrrolopyrrole of formula III



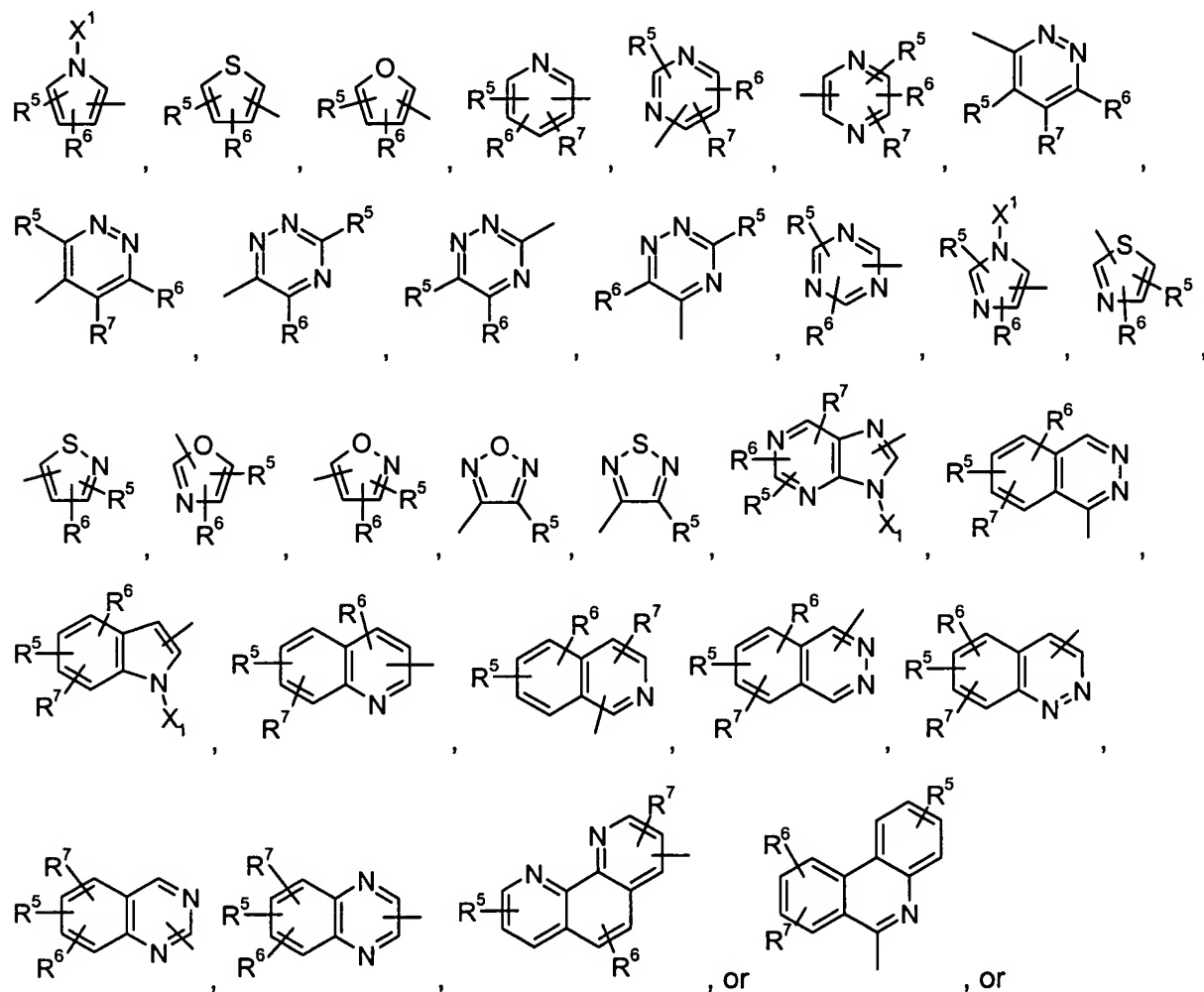
, wherein

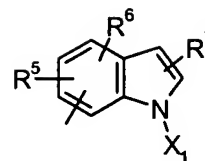
R²¹ and R²² may be the same or different and are ~~selected from~~ a C₁-C₂₅alkyl group, an allyl group, which can be substituted one to three times with C₁-C₄alkyl, a cycloalkyl group, a cycloalkyl group, which can be condensed one or two times by phenyl which can be substituted one to three times with C₁-C₄-alkyl, halogen, nitro or cyano, an alkenyl group, a cycloalkenyl group, an alkynyl group, a haloalkyl group, a haloalkenyl group, a haloalkynyl group, a ketone or aldehyde group, an ester group, a carbamoyl group, a ketone group, a silyl group, a siloxanyl group, A³ or -CR³R⁴-(CH₂)_m-A³ wherein

R^3 and R^4 independently from each other stand for hydrogen or C_1 - C_4 alkyl, or phenyl which can be substituted one to three times with C_1 - C_4 alkyl,

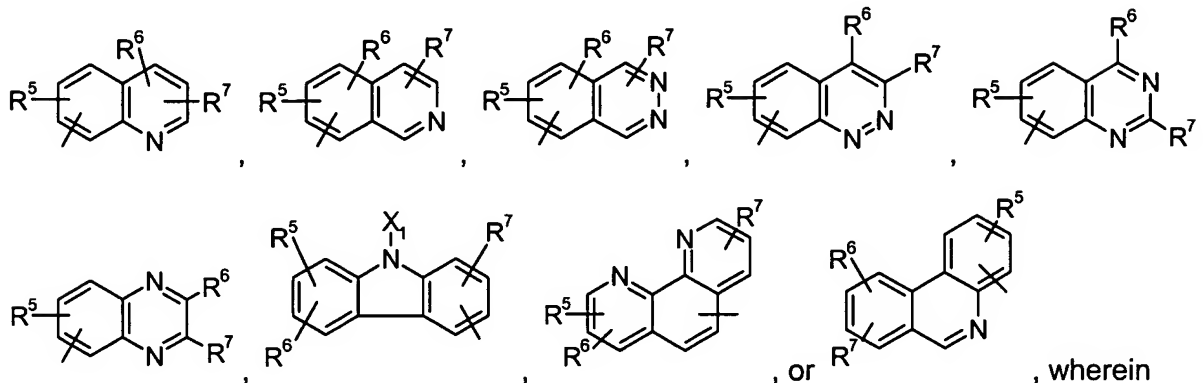
A^3 stands for aryl or heteroaryl, in particular phenyl or 1- or 2-naphthyl which can be substituted one to three times with C_1 - C_8 alkyl and/or C_1 - C_8 alkoxy, and m stands for 0, 1, 2, 3 or 4,

A^7 and A^8 independently from each other are selected from



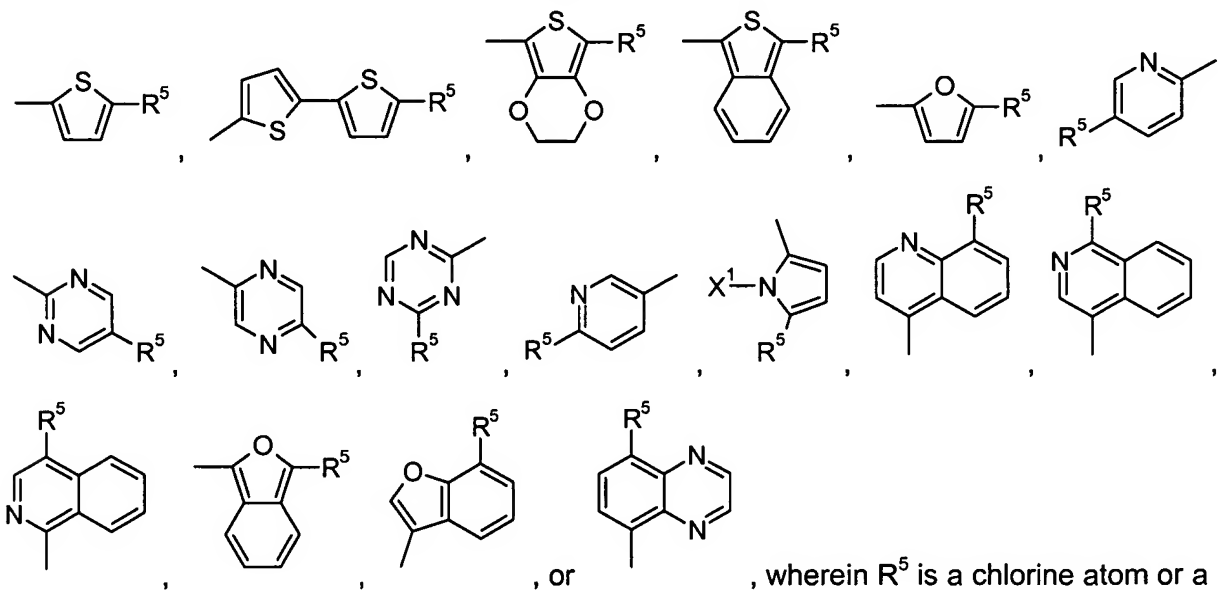


~~A¹ and A²~~ - A⁷ and A⁸ are independently of each other a group



wherein one of R⁵, R⁶ and R⁷ is a halogen atom, ~~like a chlorine atom, a bromine atom or a iodine atom,~~ and the others are as defined in claim 1 and X¹ is as defined in claim 1.

12. **(currently amended):** A diketopyrrolopyrrole of formula III according to claim 11, wherein A⁷ and A⁸ independently from each other are ~~selected from~~



, wherein R⁵ is a chlorine atom or a bromine atom and X¹ is as defined in claim 1.

13. **(currently amended):** Composition comprising

~~(a) 0.01 to 50% weight, based on the total weight of the colored high molecular weight organic material, of a fluorescent diketopyrrolopyrrole according to any of claims 1 to 4 or a composition according to any of claims 5 to 9;~~

~~(b) (a) 99.99 to 50% by weight of a high molecular weight organic material, based on the total weight of the colored high molecular weight organic material, of a high molecular weight organic material,~~

(b) 0.01 to 50% weight of a fluorescent diketopyrrolopyrrole according to claim 1, based on the total weight of the colored high molecular weight organic material and

(c) if desired, customary additives in effective amounts.

14. **(cancelled)**

15. **(new):** Composition comprising

(a) 99.99 to 50% by weight of a high molecular weight organic material, based on the total weight of the colored high molecular weight organic material, ,

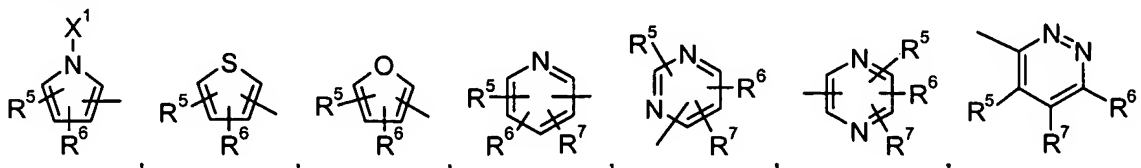
(b) 0.01 to 50% weight of a composition according to claim 5, based on the total weight of the colored high molecular weight organic material and

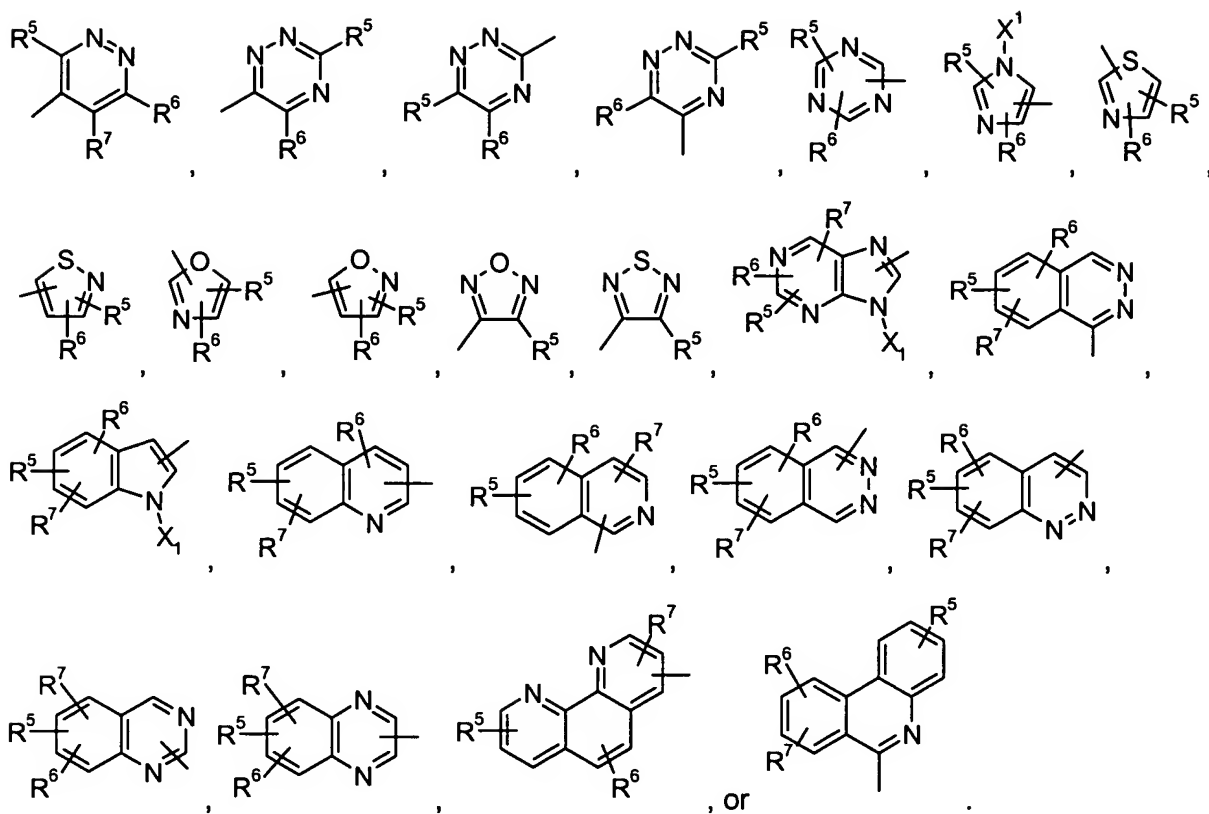
(c) if desired, customary additives in effective amounts.

16. **(new):** A fluorescent tracer, color changing medium, solid dye laser, or EL device comprising a fluorescent diketopyrrolopyrrole according to claim 1.

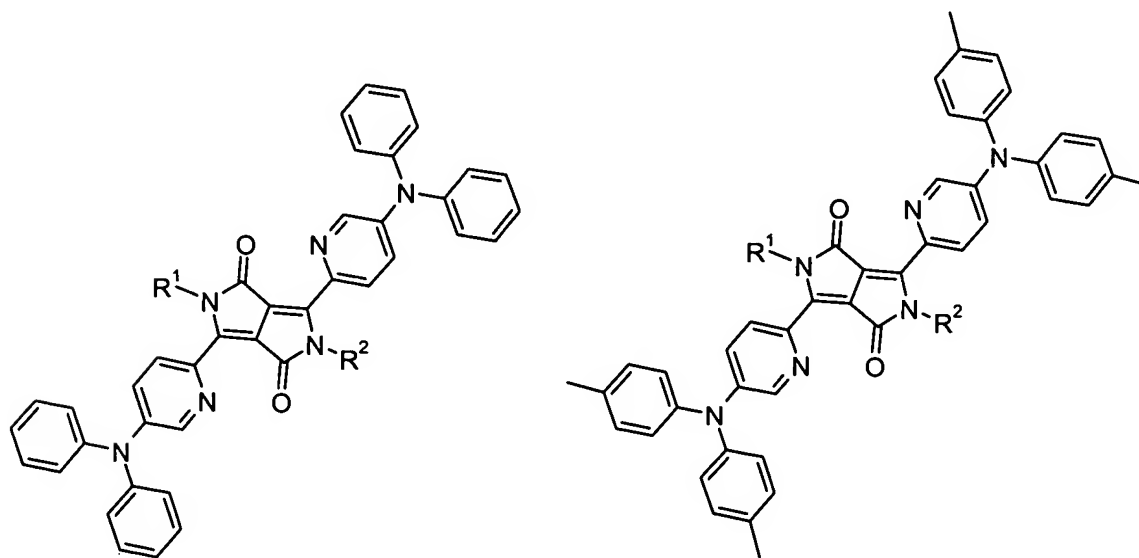
17. **(new):** A fluorescent tracer, color changing medium, solid dye laser, or EL device comprising a composition according to claim 5.

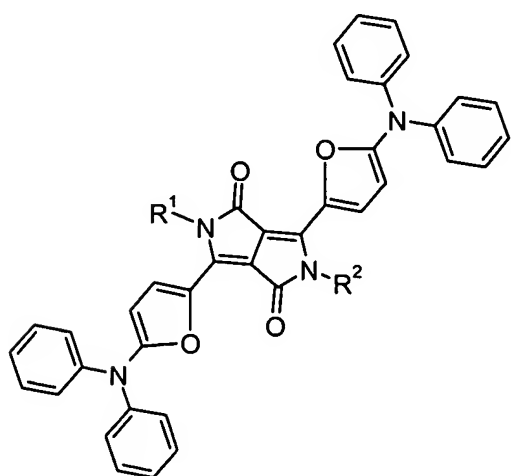
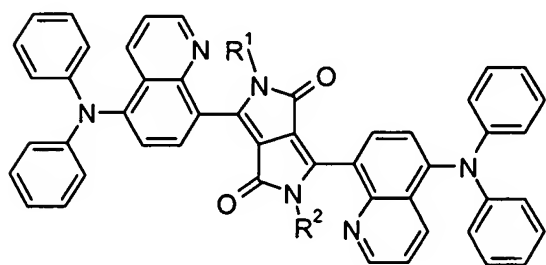
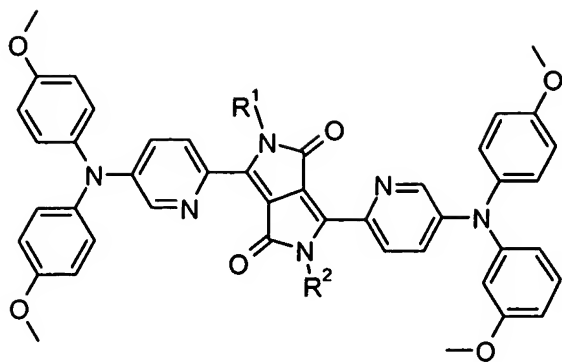
18. **(new):** A fluorescent diketopyrrolopyrrole according to claim 1, wherein A¹ and A² are independently of each other

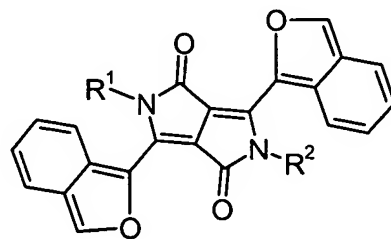
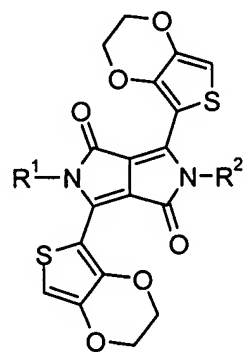
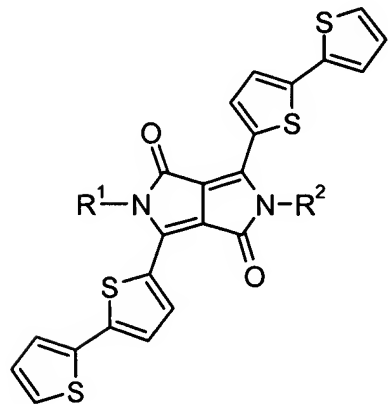
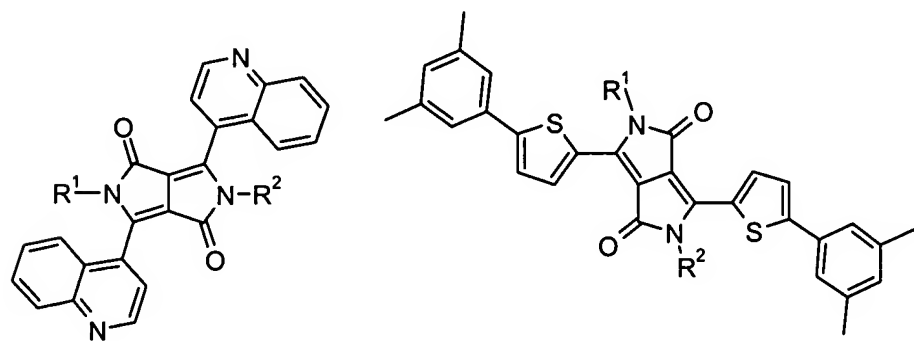
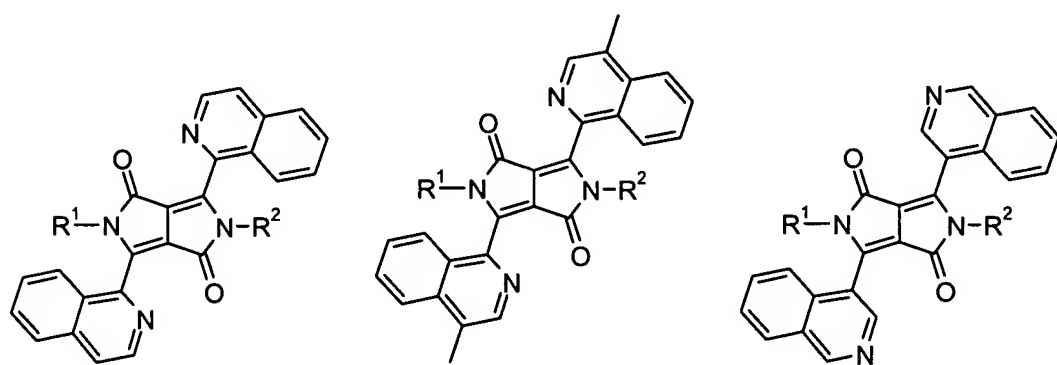
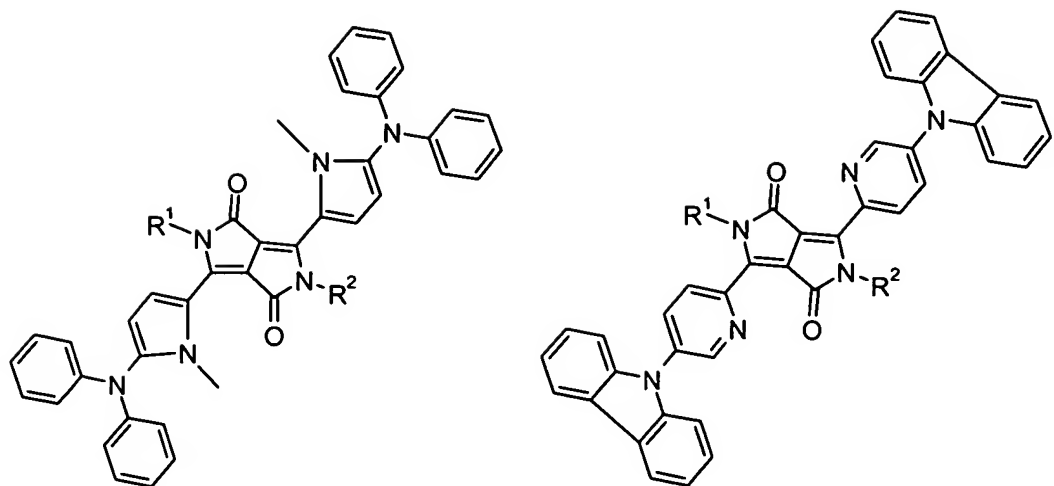


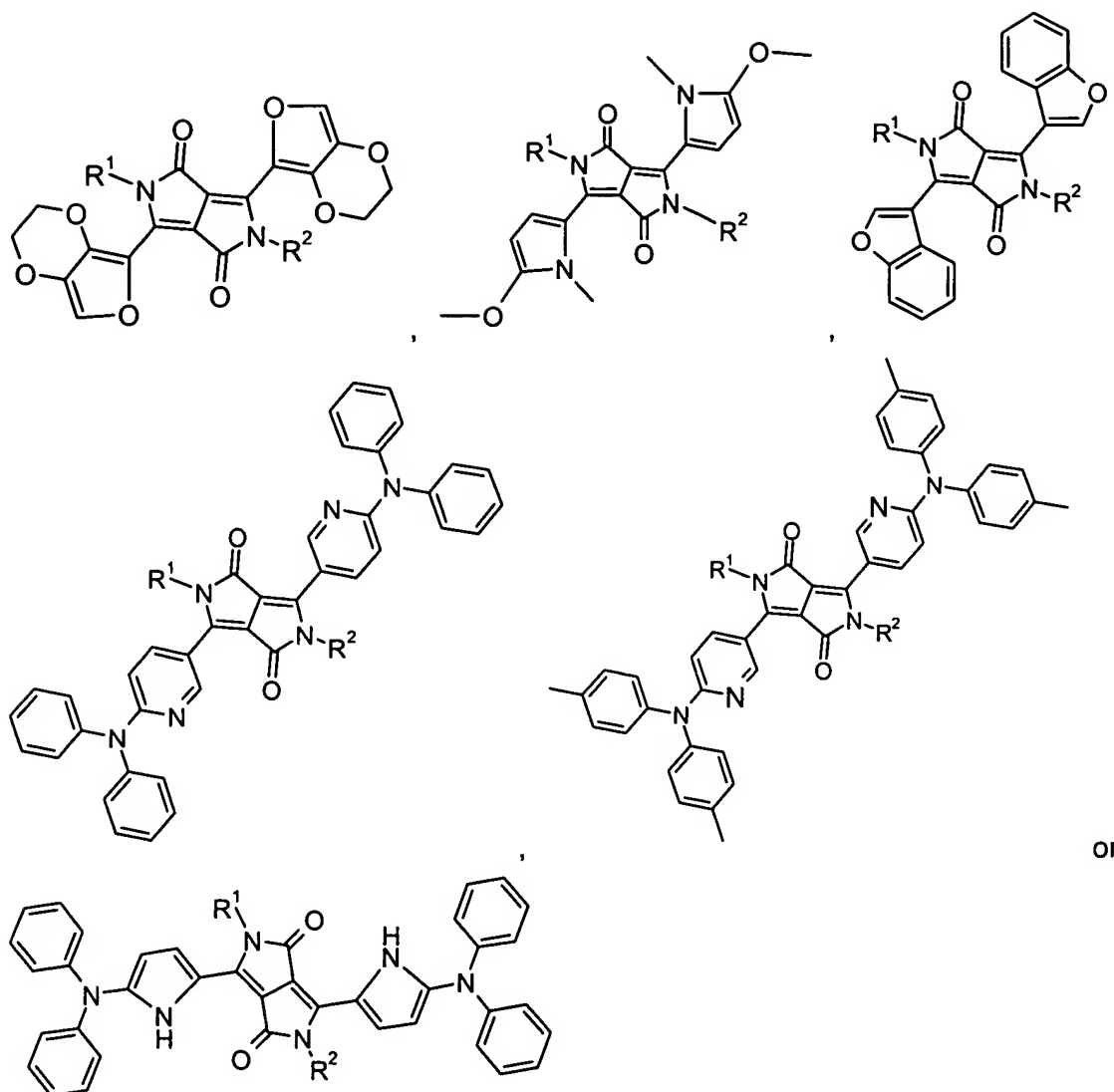


19. **(new)**: A fluorescent diketopyrrolopyrrole according to claim 4, which is









20. **(new):** A composition according to claim 5, wherein the host chromophore is a diketopyrrolopyrrole having a photoluminescence emission peak at 520 to 630 nm.
21. **(new):** A composition according to claim 6, wherein the host chromophore is a diketopyrrolopyrrole having a photoluminescence emission peak at 520 to 630 nm.